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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/760,624	01/20/2004	Robert Elliott Robotham	1400.1374080	8250
25697 7590 06/27/2007 ROSS D. SNYDER & ASSOCIATES, INC. PO BOX 164075 AUSTIN, TX 78716-4075			EXAMINER SAM, PHIRIN	
			ART UNIT 2616	PAPER NUMBER
			MAIL DATE 06/27/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/760,624

Applicant(s)

ROBOTHAM, ROBERT ELLIOTT

Examiner

Phirin Sam

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 16-20 is/are rejected.
- 7) ☒ Claim(s) 12-15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

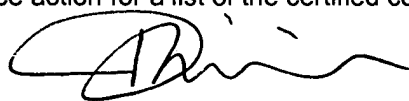
### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.



PHIRIN SAM  
PRIMARY EXAMINER

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-11 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent 6,621,825 (hereinafter referred as “Walsh”).

**Regarding claim 1**, Walsh discloses a method for multicasting data comprising:

- (a) adding the data to a queue (see Figs. 2 and 3, col. 2, lines 36-38, col. 4, lines 53-56, and col. 5, lines 14-34);
- (b) placing a reference to the data and to a multicast tree into a to-do list (see Fig. 3, col. 5, lines 16-25);
- (c) for each of the leaves of the multicast tree, obtaining a data element pointer and a leaf to be processed pointer from the to-do list (see Fig. 2, col. 2, lines 38-50, col. 4, lines 57-62);
- (d) scheduling the data to be output to each of the leaves of the multicast tree based on the data element pointer and the leaf to be processed pointer (see Fig. 2, col. 2, lines 36-50, col. 5, lines 62-67, col. 6, lines 24-42).

**Regarding claim 2**, Walsh discloses updating the leaf to be processed pointer in the to-do list for each instance of scheduling the data to be output to each of the leaves (see Fig. 5, col. 7, lines 5-28).

**Regarding claims 3-7**, Walsh discloses setting a copy count to an initial value (see Fig. 4, col. 6, lines 24-29); adjusting the copy count based on a number of actual copies made (see Fig. 4, col. 6, lines 30-36).

**Regarding claim 8**, Walsh discloses a method for multicasting data comprising:

- (a) adding the data to a queue as enqueued data (see Figs. 2 and 3, col. 2, lines 36-38, col. 4, lines 53-56, and col. 5, lines 14-34);
- (b) transmitting the enqueued data to each of a plurality of multicast destinations (see Fig. 4, col. 6, lines 24-42);
- (c) determining that all of the enqueued data for a particular destination of the multicast destinations have been transmitted (see Fig. 4, col. 6, lines 6-42).

**Regarding claim 9**, Walsh discloses a method for multicasting data comprising:

- (a) storing queue context information and data context information pertaining to the data (see Fig. 3, col. 5, lines 14-48, and col. 6, lines 44-51);
- (b) determining which of the data to transmit as output data and a destination to which it shall be transmitted based on the queue context information and the data context information (see Fig. 4, col. 6, lines 6-23);
- (c) transmitting the output data to the destination (see Fig. 4, col. 6, lines 36-42).
- (d) determining a number of destinations to which the output data has been transmitted (see Fig. 4, col. 6, lines 36-42);

- (e) determining a number of destinations intended to receive the output data (see Fig. 4, col. 6, lines 36-42).

**Regarding claim 10**, Walsh discloses the number of destinations to which the output data has been transmitted indicates that the output data has been transmitted to the number of destinations intended to receive the output data, concluding the queuing of the output data (see Fig. 4, col. 6, lines 24-36).

**Regarding claim 11**, Walsh discloses updating the queue context information for a root connection (see Fig. 3, col. 5, lines 14-48).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,621,825 (hereinafter referred as "Walsh") in view of US Patent 5,875,189 (hereinafter referred as "Brownhill").

**Regarding claim 16**, Walsh discloses apparatus for multicasting data comprising:

- (a) a queuing element for receiving the data and for transmitting the data to a plurality of multicast destinations via a plurality of destination queues (see Fig. 2, col. 3, lines 50-65);

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(b) a memory subsystem for storing the data, queue context information pertaining to a root connection, data context information pertaining to the data, a data element pointer, and a leaf to be processed pointer (see Fig. 2, col. 4, lines 1-62);

Walsh does not disclose a scheduler for scheduling a dequeuing event for the data. However, Brownhill discloses the scheduler for scheduling the dequeuing event for the data (see Fig. 6, element 36, col. 9, lines 1-8). Motivation, : to eliminate the need to make multiple copies of an individual cell in order to transmit read on column 1, lines 50-52.

**Regarding claim 17,** Walsh discloses the memory subsystem comprises:

- (a) a data memory for storing the data (see Fig. 2, element 44, col. 4, lines 1-10);
- (b) a queue context block for storing queue context information for each of the destination queues (see Fig. 2, col. 4, lines 1-10);
- (c) a data context block for storing data context information for each of the data elements of the data (see Fig. 2, col. 4, lines 1-10);
- (d) a to-do list for storing the data element pointer and the leaf to be processed pointer (see Fig. 2, col. 4, lines 1-10).

**Regarding claim 18,** Walsh discloses the data context information comprises:

- (a) a copy count for counting events of transmitting the data (see Fig. 4, col. 6, lines 24-36);
- (b) a next data element pointer for indicating a next data element of the data to be processed (see Fig. 4, col. 6, lines 60-67).

**Regarding claim 19,** Walsh discloses the queue context information comprises a head pointer, a tail pointer and a root pointer (see Figs. 2 and 4, col. 6, lines 43-51).

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**Regarding claim 20**, Walsh discloses a leaf count for counting destination queues to which the data shall be transmitted (see Fig. 4, col. 6, lines 24-51).

***Allowable Subject Matter***

5. Claims 12-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

(1) US 2004/0114616 (Wang) discloses scheduling method for combined unicast and multicast queuing.

(2) US 2004/0042478 (Bertagna) discloses method and apparatus for multicast traffic management.

(3) US 2003/00534470 (Divivier) discloses multicast cell buffer for network switch.

(4) US Patent 6,349,097 (Smith) discloses multicasting in switching apparatus.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phirin Sam whose telephone number is (571) 272-3082. The examiner can normally be reached on a compress.schedule, from 8:00-5:30, first Wed off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on (571) 272 - 3134. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Respectfully submitted,

Date: June 24, 2007

A handwritten signature in black ink, appearing to read 'Phirin Sam', written over a horizontal line.

**PHIRIN SAM  
PRIMARY EXAMINER**